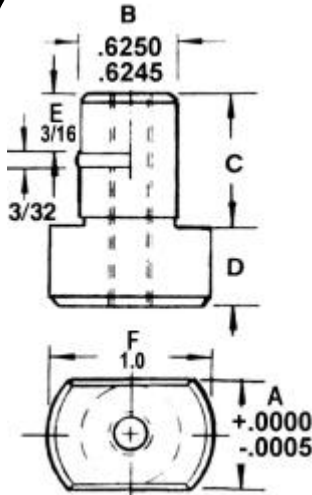


Uni-Lock and Long Mill Fixture Keys

UNITED Offers You the Key



Uni-Lock Fixture Key Removable--Locking



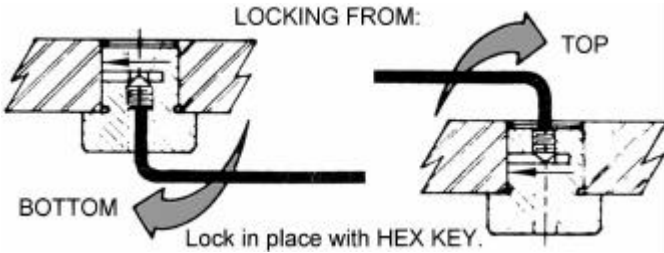
C1144 CARBONIZED STEEL
BLACK OXIDE FINISH
HARDENED and GROUND
.0005 T.I.R.

* Uni-Lock Fixture Keys eliminate the need to slot fixture bases, to make step fixture keys or to drill and tap keys. Just drill and ream! A single operation allows you to locate jig and fixtures on a machine tool table and position the part.

* On medium and small milling fixtures where welded or mounted fixture details prevent the drilling of thru-holes, UNITED's wide variety of Uni-Lock Fixture Keys solves the problem. Just drill and ream two 5/8 or 3/4 inch holes depending on table size.

* Precise alignment from either top or bottom is assured. The set screw can be tightened from the top of fixture, or the Uni-Lock Fixture Keys allow removal of the set screw and replacement in the opposite tapped hole for tightening from the bottom of the fixture.

**SINE FIXTURE KEY
LOCKING FROM:**



UNITED PART NO.	A +.0000 .0005	B +.0000 .0005	C	D	E	F
UDB-946951	.3750	.6250	15/32	11/32	3/16	1"
UDB-946953	.4375	.6250	15/32	11/32	3/16	1"
UDB-946955	.5000	.6250	15/32	11/32	3/16	1"
UDB-946957	.5625	.6250	15/32	11/32	3/16	1"
UDB-946959	.6250	.6250	15/32	11/32	3/16	1"
UDB-946961	.6875	.6250	15/32	11/32	3/16	1"
UDB-946963	.5000	.6250	23/32	7/16	3/8	1"
UDB-946965	.5625	.6250	23/32	7/16	3/8	1"
UDB-946967	.6250	.6250	23/32	7/16	3/8	1"
UDB-946969	.6875	.6250	23/32	7/16	3/8	1"
UDB-946971	.7500	.6250	23/32	7/16	3/8	1"
UDB-946973	.8125	.6250	23/32	7/16	3/8	1"
UDB-946975	.8750	.6250	3/4	7/16	3/8	1-1/8
UDB-946977	1.0000	.7500	3/4	7/16	3/8	1-3/8
UDB-946979	1.0625	.7500	3/4	7/16	3/8	1-3/8

* A simple twist of an Allen-type wrench makes any fixture immediately available to any milling machine in your shop having 3/8 or 1-1/16 inch T-Slots.

* Left and right hand fixtures can be incorporated into one fixture by drilling and reaming four holes instead of two.

* When angular milled surfaces are required on finished parts, Uni-Lock Fixture Keys makes the savings incredible!

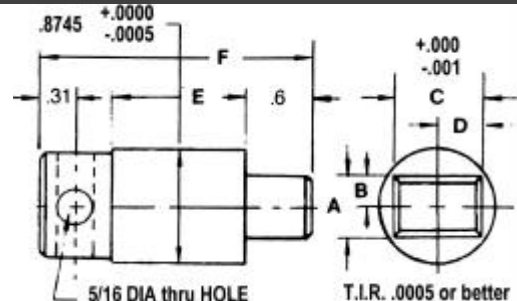
Fits 11/16 or 13/16 inch table slots by turning 90°



Long Mill Fixture Key Type VI

METRIC SIZES
NOW AVAILABLE

INSTALL IN A 7/8" ROUND HOLE.



UNITED PART NO.	A +.0000 .0010	B ± .0005	C +.0000 .0010	D ± .0005	E	F
UDB-946630	.6873	.3437	.8123	.4061	1.0	2.2
UDB-946632	.6873	.3437	.8123	.4061	3.2	4.4

The Key to Your Fixture

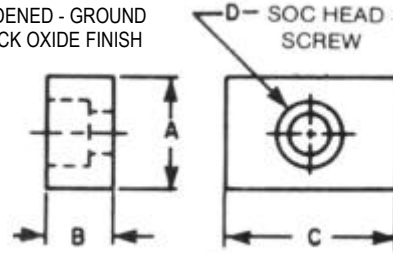
Plain and Mill Fixture Keys

SOFT PART NO.	HARD PART NO.	A +.000 .001	B	C	D SCREW
UDB-946700	UDB-946750	.5000	3/8	3/4	10-24
UDB-946701	UDB-946751	.5000	1/2	3/4	1/4-20
UDB-946705	UDB-946755	.5625	1/2	3/4	1/4-20
UDB-946709	UDB-946759	.6250	1/2	3/4	5/16-18
UDB-946710	UDB-946760	.6250	1/2	7/8	1/4-20
UDB-946715	UDB-946765	.6875	1/2	1"	5/16-18
UDB-946720	UDB-946770	.7500	1/2	1"	1/4-20
UDB-946721	UDB-946771	.7500	1/2	1-1/4	5/16-18
UDB-946725	UDB-946775	.8125	1/2	1-1/8	5/16-18
UDB-946726	UDB-946776	.8125	1/2	1-1/4	5/16-18
UDB-946730	UDB-946780	1.0625	5/8	1-1/2	3/8-16

This Key is for fixtures slotted to mount on specific machine tables.

PLAIN FIXTURE KEY TYPE I

HARDENED - GROUND
BLACK OXIDE FINISH



NIJFCM STANDARD

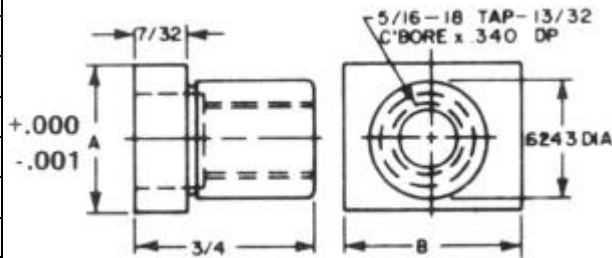
SPECIFY HARD OR SOFT

For Slotted Fixtures to mount on machine tables.
Fixture Slot Depth should be 1/2 of B dimension.

METRIC SIZES
AVAILABLE

UNITED PART NO.	A	B	FITS TABLE SLOTS
UDB-946800	.6250	.6875	5/8 - 11/16
UDB-946802	.6250	.7500	5/8 - 3/4
UDB-946805	.6250	.8125	5/8 - 13/16
UDB-946807	.6875	.7500	11/16 - 3/4
UDB-946810	.6875	.8125	11/16 - 13/16
UDB-946812	.7500	.8125	3/4 - 13/16

HARDENED - GROUND
BLACK OXIDE FINISH

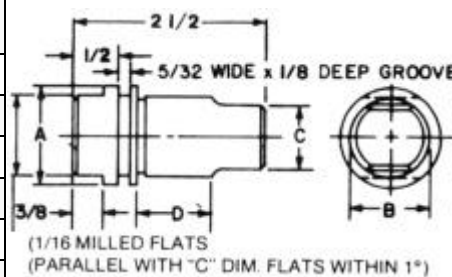


Use for two different table slot sizes by rotating Key 90°. Fasten from top with 5/16-18 Socket Head Cap Screw or from base with a 1/4-20 Socket Head Cap Screw. Install in 5/8" reamed hole. T.I.R. .0005

PLAIN FIXTURE KEY TYPE II

HARDENED - GROUND
BLACK OXIDE FINISH

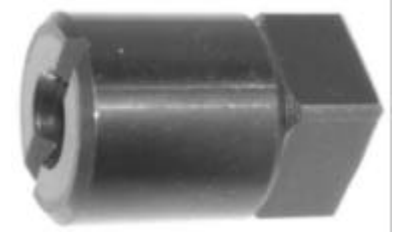
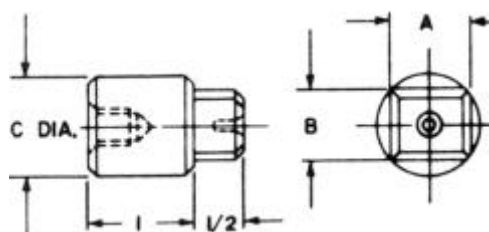
UNITED PART NO.	A	B	C	D
UDB-946641	1-1/4	1.0000 / .9995	.812 / .811	15/16
UDB-946643	1-1/2	1.3750 / 1.3745	1.062 / 1.061	15/16
UDB-946645	1-1/4	1.0000 / .9995	.687 / .686	11/16
UDB-946647	1-1/2	1.3750 / 1.3745	.812 / .811	15/16
UDB-946649	1-1/2	1.3750 / 1.3745	.687 / .686	15/16
UDB-946651	1-1/4	1.0000 / .9995	.687 / .686	15/16



MILL FIXTURE KEY TYPE III

HARDENED - GROUND
BLACK OXIDE FINISH

UNITED PART NO.	A	B	C
UDB-946661	.687 / .686	.812 / .811	.9995 / 9990
UDB-946663	.562 / .561	.687 / .686	.9995 / 9990



SHORT MILL FIXTURE KEY TYPE IV

**Step Fixture Keys
Types V and VI**

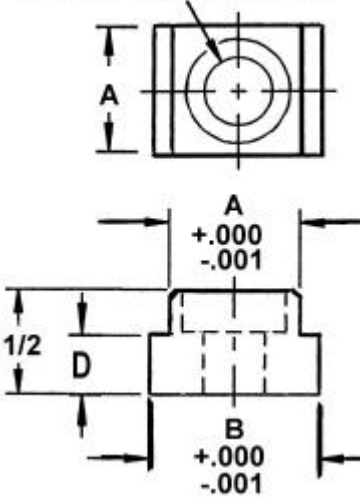
UNITED Fixture Keys



Type VI

**STEP FIXTURE KEY TYPE VI
NEW Expanded Version**

**C
Socket Head Cap Screw**



**Top and Bottom of Fixture Keys
are central to each other
within .0005.**

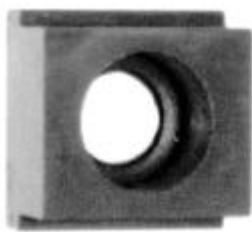
DESIGNED TO WEAR LONGER!

Step Fixture Keys adapt machine tables with key slots to tools, fixtures and vises

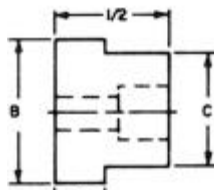
UNITED Fixture Keys fit machine tables which are larger or smaller than a given

Available for U.S.A. or Metric Slots.
Durable Steel – Hardened and Ground
Black Oxide Finish

TYPE VI FIXTURE SLOTS — U.S.A.						
TYPE VI PART NO.	FIXTURE SLOT SIZE	A	TABLE SLOT SIZE	B SLOT ACTUAL	C SOCKET HD CAP SCREW	D STEP
UCC-108437	1/2	.5000	7/16	.4375	1/4 OR M6	9/32
UCC-108562			9/16	.5625		7/32
UCC-108625			5/8	.6250		
UCC-108687			11/16	.6875		
UCC-108472	1/2	.5000	12MM	.4724	1/4 OR M6	9/32
UCC-108551			14MM	.5512		7/32
UCC-108629			16MM	.6299		
UCC-108708			18MM	.7087		
UCC-109437	9/16	.5625	7/16	.4375	1/4 OR M6	9/32
UCC-109500			1/2	.5000		7/32
UCC-109625			5/8	.6250		
UCC-109472	9/16	.5625	12MM	.4724	1/4 OR M6	9/32
UCC-109551			14MM	.5512		7/32
UCC-109629			16MM	.6299		
UCC-110500	5/8	.6250	1/2	.5000	5/16 OR M8	9/32
UCC-110562			9/16	.5625		7/32
UCC-110687			11/16	.6875		
UCC-110750			3/4	.7500		
UCC-110812			13/16	.8125		
UCC-110474	5/8	.6250	12MM	.4724	5/16 OR M8	9/32
UCC-110551			14MM	.5512		7/32
UCC-110629			16MM	.6299		
UCC-110708			18MM	.7087		
UCC-110787		20MM	.7874			
UCC-111562	11/16	.6875	9/16	.5625	5/16 OR M8	9/32
UCC-111625			5/8	.6250		7/32
UCC-111750			3/4	.7500		
UCC-111812		13/16	.8125			
UCC-111629	11/16	.6875	16MM	.6299	5/16 OR M8	9/32
UCC-111708			18MM	.7087		7/32
UCC-111787			20MM	.7874		
UCC-120625	3/4	.7500	5/8	.6250	5/16 OR M8	9/32
UCC-120687			11/16	.6875		7/32
UCC-120812			13/16	.8125		
UCC-120708	3/4	.7500	18MM	.7087	5/16 OR M8	9/32
UCC-120787			20MM	.7874		7/32
UCC-130687	13/16	.8125	11/16	.6875	5/16 OR M8	9/32
UCC-130750			3/4	.7500		
UCC-130708	13/16	.8125	18MM	.7087	5/16 OR M8	9/32
UCC-130787			20MM	.7874		
TYPE VI FIXTURE SLOTS METRIC						
UCC-125500	20MM	.7874	1/2	.5000	1/4 OR M6	9/32
UCC-125562			9/16	.5625		
UCC-125625			5/8	.6250		
UCC-125687			11/16	.6875		
UCC-125750			3/4	.7500		
UCC-125812		13/16	.8125		7/32	
UCC-125629	20MM	.7874	16MM	.6299	1/4 OR M6	9/32
UCC-125700			18MM	.7087		



Type V



STANDARD Version TYPE V

TYPE V PART NO.	A +.000 .001	B +.000 .001	C +.000 .001	D
UDB-946900	.5625	.5625	.4375	#10
UDB-946905	.625	.625	.500	1/4
UDB-946910	.6875	.6875	.5625	1/4
UDB-946912	.6875	.6875	.625	5/16
UDB-946915	.750	.750	.625	5/16
UDB-946920	.8125	.8125	.6875	5/16

Sub-Plate Pallet and Locating Fixture Keys

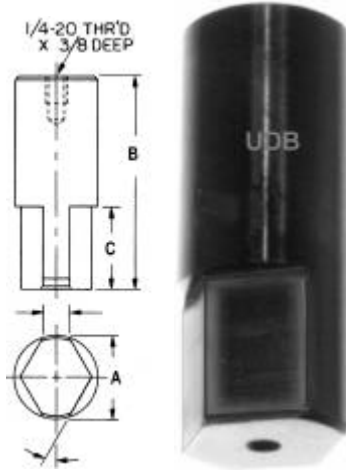


Sub-Plate Locating Keys mount quick-change fixture plates on a sub-plate. Diamond Keys are scribed on top to orient correctly in the hole.

The standard diameters match our standard fixture holes. These two standard O.D.s allow mounting the same fixture plate on a sub-plate (3 axis loc.) or a machine table (2 axis loc.). They fit the same holes as our Uni-Lock Key on page E22.

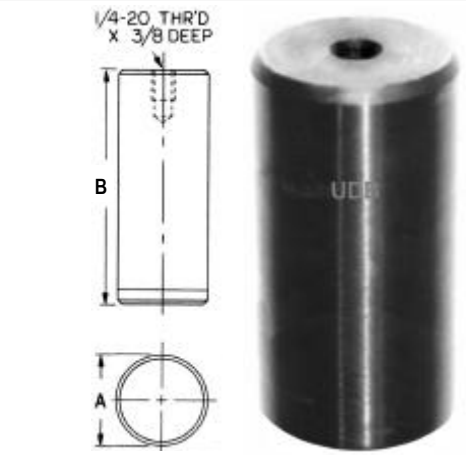
Round and Diamond Keys are used simultaneously for accurate location and to avoid binding.

ROUND STANDARD FIXTURE HOLES				
UNITED PART NO.	A DIAMETER		B	C
	NOMINAL	ACTUAL		
UCC-100625R	5/8	.6250 / .6244	2-1/4	
UCC-101187R	1-3/16	1.1875 / 1.1869	2-7/8	
DIAMOND RELIEVED				
UCC-100625D	5/8	.6250 / .6244	2-1/4	1
UCC-100875D	1-3/16	1.1875 / 1.1869	2-7/8	1



DIAMOND RELIEVED

SUB-PLATE LOCATING KEYS



ROUND

1144 Hardened and Ground
Black Oxide Finish

Mount this Removable Key from above plate on any combination of rectangular tooling plates, blocks or riser blocks on standard and DIN pallets.

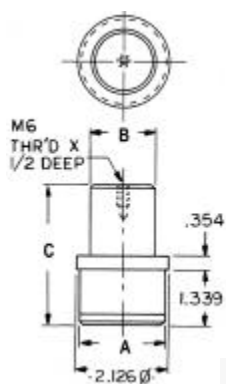
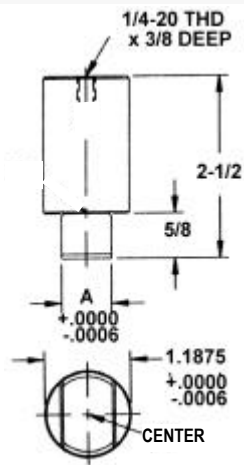
REMOVABLE TYPE LOCATING KEYS

UNITED PART NO.	TABLE SLOT SIZE	A
UCC-104562D	9/16	.5625
UCC-104625D	5/8	.6250
UCC-104687D	11/16	.6875
UCC-104750D	3/4	.7500
UCC-104812D	13/16	.8125
UCC-104875D	7/8	.8750
METRIC		
UCC-104551D	14MM	.5512
UCC-104629D	16MM	.6299
UCC-104708D	18MM	.7087
UCC-104787D	20MM	.7874
UCC-104866D	22MM	.8661

EASY OPERATION:

- ① Place fixture on machine.
- ② Install removable key into a 1-3/16 reamed hole. Hold .0005 true position.
- ③ Fasten fixture. Remove Key if needed.
- ④ Parts are now mounted to pallet.

Key keeps fixture free of any bottom obstruction.



CENTER PINS

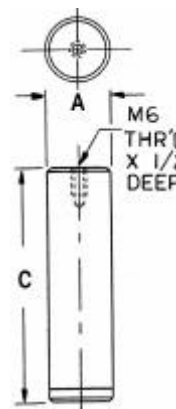
PALLET FIXTURE KEYS

Pallet Fixture Keys mount Tooling Plates and Blocks onto standard DIN Pallets.

Pallets require one each Center Pin and one each Radial Pin for orientation.

The Radial Pin can be removed after fastening the plates or blocks to the pallet and the machine.

Also used in conjunction with UDB-946630 Long Mill Fixture Key, page E22.



RADIAL PINS

UNITED PART NO.	A DIAMETER		B DIAMETER		C
	NOMINAL	ACTUAL	NOMINAL	ACTUAL	
UCC-100983	50MM	1.9681 / 1.9676	25MM	.9839 / .9835	2.874
UCC-101808	50MM	1.9681 / 1.9676	30MM	1.1808 / 1.1804	3.425
UCC-101968	50MM	1.9681 / 1.9676	50MM	1.9681 / 1.9676	3.425

Hardened and Ground
Black Oxide Finish

UNITED PART NO.	A DIAMETER NOMINAL	A DIAMETER ACTUAL	C
UCC-100787	20MM	.7871 / .7867	3.504
UCC-100984	25MM	.9839 / .9835	4.921

**Cam Action Edge
Clamps Positive Lock**

Cam Action Edge Clamps Locks Positively Within 180° Throw

CAM ACTION EDGE MINI CLAMP

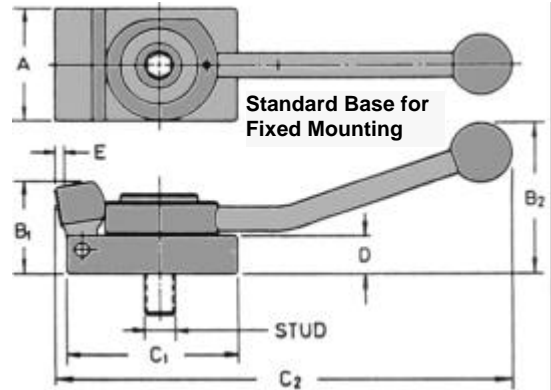
Fixed Base Mounting



UDB-950290 – 5/16-18 Stud
UDB-950295 – 5/16-18 Stud

Clamp nose pivots to exert force while clamping down and forward simultaneously.

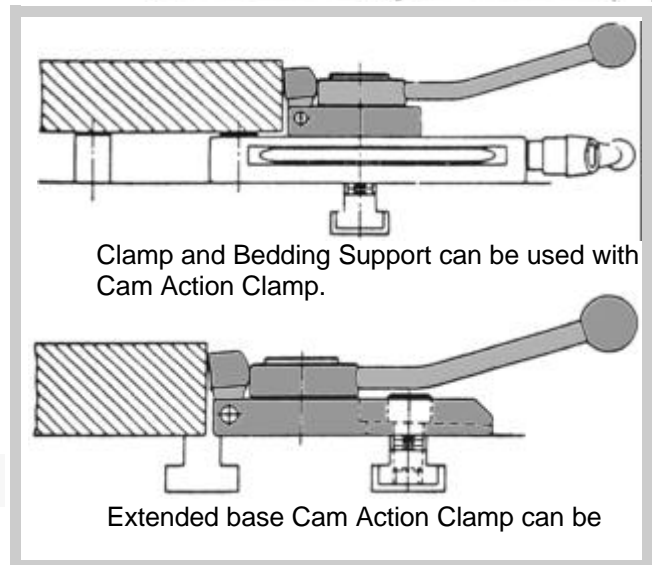
LOCKS CLOCKWISE OR COUNTERCLOCKWISE



Smooth efficient pivoting nose edge clamp locks positively with a cam handle anywhere within its 180° throw.

Two bases are available with either a standard base for fixed positioning or the larger slotted base for adjustable mounting. You have a choice of clockwise or counter-clockwise handle rotation in order to clamp.

Holds parts that vary slightly in dimension with its pivotal clamping nose.



CAM ACTION EDGE STANDARD CLAMP

Slotted Base Mounting



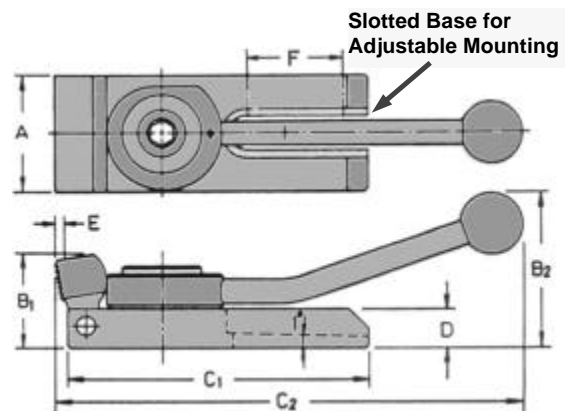
UDB-950300 – 1/2-13 Stud
UDB-950305 – 1/2-13 Stud

LOCKS CLOCKWISE OR COUNTERCLOCKWISE

Special spiral cam locks positively anywhere within its 180° throw.

HANDLE BALL IS BLACK PHENOLIC PLASTIC.

HANDLE BAR IS HARDENED AND GROUND WITH BLACK OXIDE FINISH.



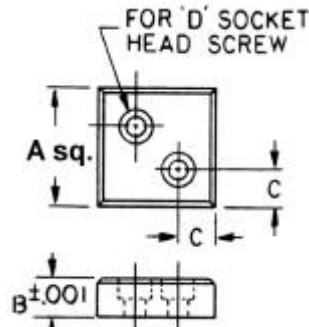
MINI CAM ACTION CLAMPS										
PART NO.	BASE	STUD	A	B ₁	B ₂	C ₁	C ₂	D	E	F
UDB-950290	MINI	5/16 18	1-1/4	1"	1-5/8	1-3/4	5"	7/16	1/8	
UDB-950295	EXTENDED	5/16 18	1-1/4	1"	1-5/8	3-1/8	5"	7/16	1/8	1"
STANDARD CAM ACTION CLAMPS										
UDB-950300	STANDARD	1/2 13	1-7/8	1-1/2	2-1/2	2-3/4	7-1/2	5/8	5/32	
UDB-950305	EXTENDED	1/2 13	1-7/8	1-1/2	2-1/2	4-3/4	7-1/2	5/8	5/32	1-1/2

Jig Leg Plate Pads, Feet and Rests



Large solid contact Pad. Precision ground. Serves as Rest Pad or Jig Foot. This double pad handles heavy loads. Tapped for socket head screws.

PART NO.	A	B	C	D
UDB-546565	1"	.3125	5/16	#10-32 or M5
UDB-546567	1-1/4	.3750	3/8	1/4-20 or M6
UDB-546569	1-1/2	.4375	7/16	1/4-20 or M6



JIG LEG PLATE PAD



Carborized and Hardened 1018 Steel — Black Oxide finish

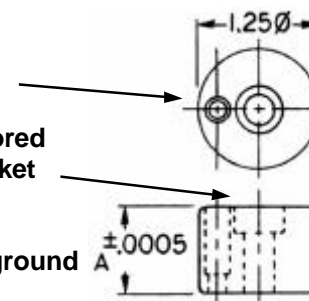
PART NO.	A
UDB-546575	.5000
UDB-546577	1.000
UDB-546579	2.000
UDB-546581	3.000

Carborized and hardened 12L14 steel
Black Oxide finish

To prevent rotation:
Dowel in place.
Use 3/16 inch dowel.

Drilled and counterbored
for 5/16-18 or M8 Socket
Head Cap Screw.

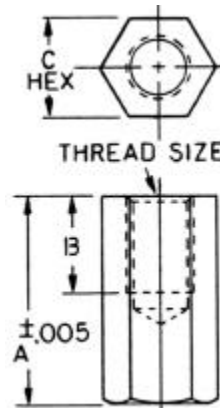
Length is precision ground
to ±.0005



DRILL JIG FEET



UNITED PART NO.	THREAD SIZE	A LEN ±.0005	B THD DEPTH	C HEX
UDB-547061	USA 5/8 - 11	1.000	5/8	1"
UDB-547062		1.250	7/8	
UDB-547063		1.500	1"	
UDB-547064		1.750	1-1/4	
UDB-547065		2.000	1-1/2	
UDB-547066		2.500		
UDB-547067		3.000		
UDB-547068		3.500		
UDB-547069		4.000		
UDB-547070		6.000		
UDB-547071	8.000			
UDB-547080	METRIC M16	1.181 (30MM)	.63	24MM
UDB-547082		1.3781 (35MM)	.87	
UDB-547084		1.575 (40MM)	.98	
UDB-547086		1.772 (45MM)	1.26	
UDB-547088		1.969 (50MM)	1.50	
UDB-547090		2.953 (75MM)		
UDB-547092		3.937 (100MM)		



Generally used in pairs or sets of 4

Carborized and hardened 12L14 steel
Black Oxide finish

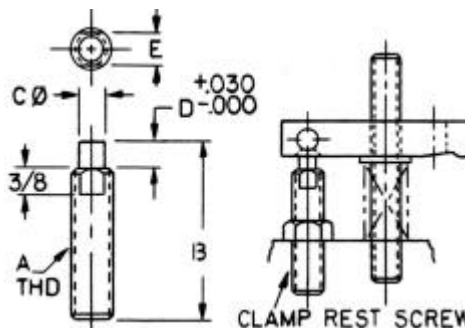
DOUBLE END JIG FEET



Designed for rear support.
For Drill - Spot - Heel, Swivel Heel, Tapped Heel Clamps

PART NO.	A	B	C	D	E
UDB-932261	3/8-16	2"	.250	.313	1/4
UDB-932262		2-1/2			
UDB-932263		3"			
UDB-932264	1/2-13	2"	.344	.313	3/8
UDB-932265		2-1/2			
UDB-932266		3"			

Carborized and hardened 12L14 steel
Black Oxide finish



CLAMP REST SCREWS



Low Profile Support Clamps

Bedding Work Support Clamps

LOW PROFILE ADJUSTABLE SERIES

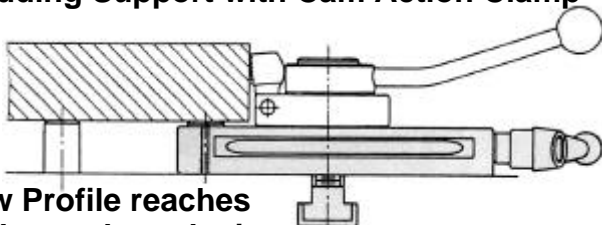


Use *UNITED*'s **Low Profile Bedding Work Support Clamp** in conjunction with three point fixed supports in difficult to reach positioning locations. Always position to allow for handle access, using these simple steps:

- ① Place under the workpiece.
- ② Position where cutters may create vibration.
- ③ Use the locking handle to depress the spring-loaded plunger and hold down.
- ④ Position at the desired location
- ⑤ Release the handle. The plunger will pop up to contact the part.
- ⑥ Turn the handle to lock the plunger to support loads of 110 to 1100 pounds, depending upon the model selected.
- ⑦ Release to remove work piece.
- ⑧ Re-tighten to secure a new part. Reset adjustable handle to current required angle.

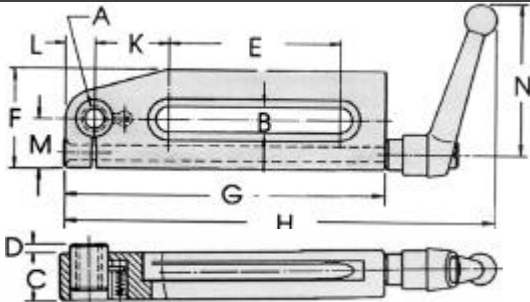
Threaded Studs, Rest Pads, Adjustable Screws, and Threaded Rest Buttons can be screwed into the female plunger support pin to adjust the height.

Bedding Support with Cam Action Clamp



Low Profile reaches underneath work piece

SEE DRAWING, PAGE E30.



UNITED MODEL NO.	A THD	B SLOT	C THICK	D MAX STROKE	E SLOT LENGTH	F WIDTH	G BODY LENGTH	H OAL	K SLOT TO A	L THD TO END	M THD TO SIDE	N LEN HANDLE	LOAD CAPACITY
UDB-650201	5/16-18	.33	.71	.11	1-13/32	1-3/16	3-3/8	5-3/16	1-1/16	13/32	25/32	2-9/16	110 LBS
UDB-650202	1/2-13	.53	.95	.23	3-9/16	2	6-1/2	8-13/16	1-17/32	19/32	1	3-1/8	550 LBS
UDB-650203	5/8-11	.67	1.34	.43	4-1/16	2-3/8	7-1/2	10-5/8	1-3/4	13/16	1-9/16	4-5/16	1100 LBS

Select the right Pad, Button or Rest to satisfy your requirements:



JACK SCREW
PAGE I-15



CLAMP REST
PAGE G12



STUD
PAGE F26



HEX LEVEL SCREW
PAGE H4



JIG LEG
PAGE H5



ADJUSTABLE SCREW
PAGE I-15



SCREW REST PAD
PAGE E30

Heavy Duty Jack Screws and Tips

Jack Screws and Jack Screw Tips

HEAVY DUTY ADJUSTABLE MANUAL JACK SCREWS have HIGH LOAD CAPACITY.

CONICAL TIP



UCC-921137

RADIUS TIP



UCC-921139

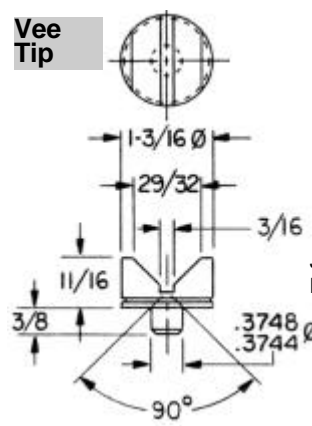
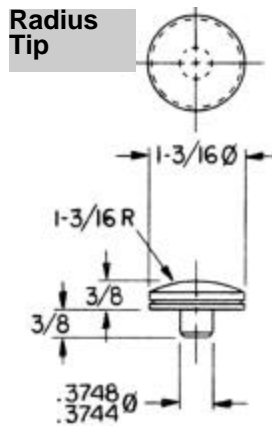
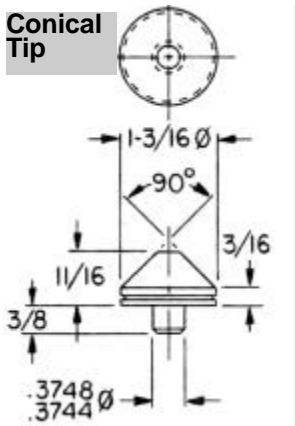
V - SHAPED TIP



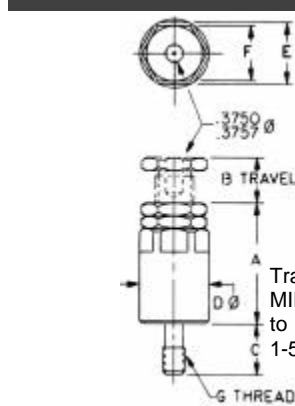
UCC-921141

NUT design moves UP or DOWN with infinite adjustment.

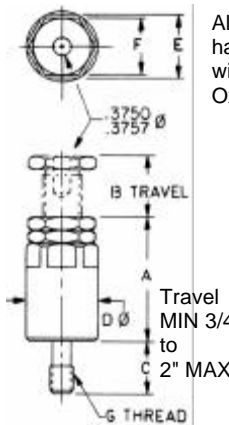
TOP LOCATING HOLE is + .3750 - .0007 to CENTER Plates, Spherical V-Caps and Tips.



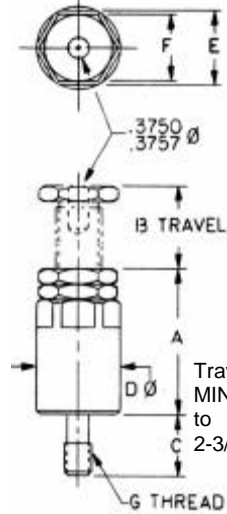
JACK SCREW



Heights listed for each Jack Screw are our complete travel adjustments.



All parts are hardened with Black Oxide finish.



Jack Screw Height varies from 1-5/8" Base to 2-3/4" with additional travel up to 1-1/2". See chart below.

UNITED JACK SCREW	MOUNTING SCREW SIZE	A RETRACTED HEIGHT	B TRAVEL	C THD LENGTH	D DIA. O.D.	E ADJ. BOLT	F JAM NUT	G THD
UCC-921125	STANDARD	1-5/8	3/8	1-1/4	1-9/16	1-7/16	1-5/16	1/2-13
UCC-921127		2"	3/4					
UCC-921129		2-3/4	1-1/2					
UCC-921131	HEAVY	1-5/8	3/8	1-3/8	1-9/16	1-7/16	1-5/16	5/8-11
UCC-921133		2"	3/4					
UCC-921135		2-3/4	1-1/2					

RISER CYLINDER

For additional height and mounting variations, use Riser Cylinders.

See this Section of our Catalog.

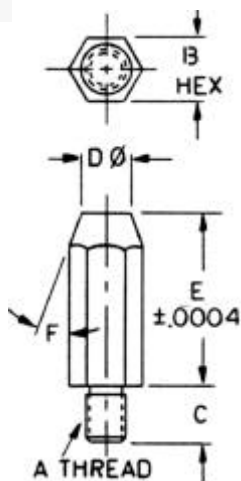
Rest Pads, Bolts and Riser Cylinders

Screw Rest Pads - Swivel Contact Bolts - Riser Cylinders

SCREW REST PADS



Lengths from 1/4 to 2"
Increase your reach and pick a winner!



CAN BE USED TO SUPPORT WORKPIECE OR REVERSE AND USE AS A FOOT FOR JIG OR FIXTURE.

REVERSIBLE SMALL SCREW REST LOCATOR PAD WITH SPACE SAVING SUPPORT.

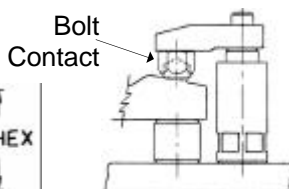
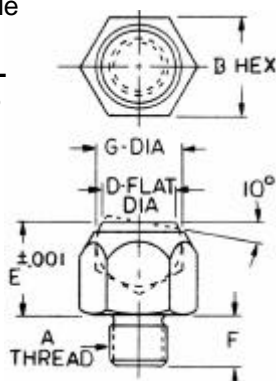
UNITED SCREW REST PADS	A THD	B HEX	C THD LEN	D O.D. DIA	E HT.	F ANGLE
UCC-700001	5/16-18	3/4	5/8	5/16	.2500	75°
UCC-700002					.3750	60°
UCC-700003					.5000	35°
UCC-700004					.7500	25°
UCC-700005					1.0000	20°
UCC-700006					1.2500	15°
UCC-700007					1.5000	15°
UCC-700011	1/2-13	7/8	15/16	1/2	.2500	75°
UCC-700012					.3750	60°
UCC-700013					.5000	35°
UCC-700014					.7500	25°
UCC-700015					1.0000	20°
UCC-700016					1.2500	15°
UCC-700017					1.5000	15°
UCC-700018					2.0000	15°
UCC-700021	5/8-11	1"	1-1/4	5/8	.2500	75°
UCC-700022					.3750	60°
UCC-700023					.5000	35°
UCC-700024					.7500	25°
UCC-700025					1.0000	20°
UCC-700026					1.2500	15°
UCC-700027					1.5000	15°
UCC-700028					2.0000	15°

HEX SWIVEL CONTACT BOLTS



Reversible HEX SWIVEL BOLTS

Levels Up or Down



DISTRIBUTES CLAMPING EVENLY ON IRREGULAR SURFACES.

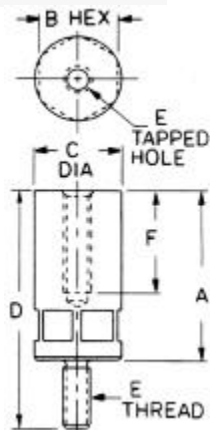
Precision Ground to insure height locations.

Use with Riser Cylinders.

UNITED SWIVEL BOLTS	A THD	B HEX	D DIA FLAT	E HEIGHT NOM. ACTUAL		F THD LEN	G BASE DIA
UCC-700041	5/16-18	9/16	13/32	1/2	.5000	5/16	15/32
UCC-700042	3/8-16	13/16	19/32	13/16	.8125	1/2	23/32
UCC-700043	1/2-13	7/8	19/32	13/16	.8125	7/16	23/32
UCC-700044	5/8-11	1-1/16	25/32	1"	1.0000	5/8	29/32

RISER CYLINDERS

ADJUSTS HEIGHT from 2" to 5-1/4". Uses minimal fixture or plate space. Use for additional height and mounting variations.



Can be used with Jack Screws, Hook Clamps, Adjustable Screws, Swivel Contact Bolts, Screw Rest Pads.

UNITED RISER CYLINDERS	SIZE	A	B	C DIA	D	E	F / G THD LEN
UCC-921140	SMALL	1-1/4	7/8	1"	2"	5/16-18	3/4
UCC-921142		1-1/2			2-1/4		
UCC-921144		2"			2-3/4		
UCC-921146	MEDIUM	2"	1-7/16	1-9/16	3-1/4	1/2-13	1-1/4
UCC-921148		3-1/8			4-3/8		
UCC-921150		4"			5-1/4		
UCC-921152	LARGE	2"	1-13/16	2"	3-1/4	5/8-11	1-1/4
UCC-921154		3-1/8			4-3/8		
UCC-921156		4"			5-1/4		

Spindles - Bolts - Shims

LOCATE and EXTEND WITH PRECISION

Adjustable Spindles,
Contact Bolts & Shims

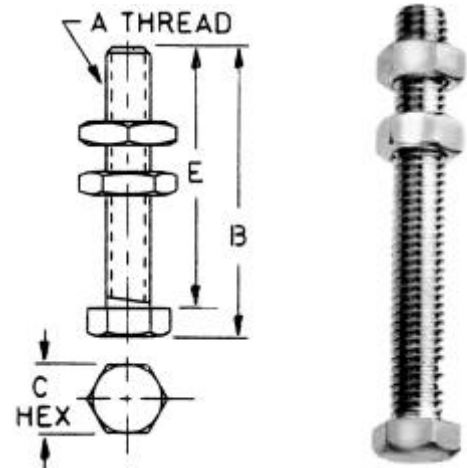
Bolt fully threaded for maximum adjustment.

Tough Durable multi-purpose Spindle
also used with Toggle Clamps.

UNITED ADJUSTABLE SPINDLES	SIZE	A THD	B OAL	C HEX	E LENGTH UNDER HEAD
UCC-700050	SMALL	5/16-18	2-11/16	1/2	2-1/2
UCC-700052	MEDIUM	3/8-16	3-1/4	9/16	3
UCC-700054	STANDARD	1/2-13	3-5/16	3/4	3
UCC-700056	HEAVY	5/8-11	4-3/8	15/16	4

CARBON STEEL - ZINC PLATED

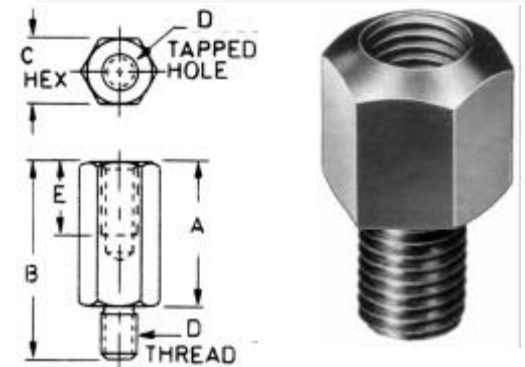
ADJUSTABLE SPINDLES



Used with Swivel Contact Bolts for Extending Length.
Stack to further Increase Length.

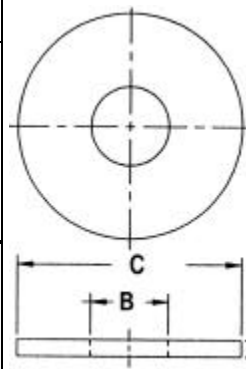
UNITED BOLT EXTENSIONS	SIZE	A HEIGHT	B OVERALL LENGTH	C HEX	D THD	E THD LEN
UCC-700060	SMALL	1/2	13/16	9/16	5/16-18	5/16
UCC-700062		3/4	1-1/16			
UCC-700064		1	1-5/16			
UCC-700066	MEDIUM	1-1/4	2	7/8	1/2-13	3/4
UCC-700068		2	2-3/4			
UCC-700070		3	3-3/4			
UCC-700072	LARGE	1-1/2	2-1/2	1-1/16	5/8-11	1
UCC-700074		2	3			
UCC-700076		3	4			

CONTACT BOLT EXTENSIONS



12L14 STEEL - BLACK OXIDE FINISH

UNITED SHIMS	SIZE	A Thickness	B I.D. DIA	C O.D. DIA
UCC-700882	SMALL	.002	9/16	15/16
UCC-700883		.003		
UCC-700884		.004		
UCC-700885		.005		
UCC-700886		.010		
UCC-700887		.020		
UCC-700888		.062		
UCC-700889		.125		
UCC-700891		MEDIUM		
UCC-700892	.003			
UCC-700893	.004			
UCC-700894	.005			
UCC-700895	.010			
UCC-700896	.020			
UCC-700897	.062			
UCC-700898	.125			
UCC-700901	LARGE		.002	11/16
UCC-700902		.003		
UCC-700903		.004		
UCC-700904		.005		
UCC-700905		.010		
UCC-700906		.020		
UCC-700907		.062		
UCC-700908		.125		



Precision Shim Spacers Control your workpiece Heights
with precise .001 increments.

Tolerances are $\pm .0003$ on .062 and .125 sizes
and 10% on Small Sizes.

1144 STEEL - HEAT TREATED

PRECISION SHIM SPACERS

Shim or Raise workpiece.
Stack to size required.

